Type-model	Processor	Base (GHz)	Max turbo (GHz)	Memory (MHz)	Wide-screen display	Multi-Touch Screen	Disk SATA GB[8] rpm	RAID	PCIe Mini Card 802.11	PCIe Mini Card WWAN	Carrier	Color calib	Intel vPro	Preload	Avail date
4319-2NU	i7-720QM	1.60	2.80	2GBx1 1066	15.6" HD+		320G 7200	None	Intel 6300[28]	WWAN upg			vPro	Pro 32	Jan 10
4319-2PU	i7-720QM	1.60	2.80	2GBx2 1066	15.6" FHD		320G 7200	None	Intel 6300	WWAN upg			vPro	Pro 64	Jan 10
✂ 4319-2QU	i7-720QM	1.60	2.80	2GBx2 1066	15.6" FHD		320G 7200	None	Intel 6300	Gobi 2000			vPro	Pro 64	Jan 10
4319-2RU	i7-820QM	1.73	3.06	2GBx2 1066	15.6" FHD	*Multi*	320G 7200	None	Intel 6300	WWAN upg		X-Rite	vPro	Pro 64	Jan 10
4319-4BU	i7-720QM	1.60	2.80	2GBx2 1066	15.6" FHD		320G 7200	None	Intel 6300	Gobi 2000	AT&T[23]		vPro	Pro 64	Feb 10
4319-4MU	i7-720QM	1.60	2.80	2GBx2 1066	15.6" HD+		320G 7200	None	Intel 6300	Gobi 2000	AT&T		vPro	Pro 64	Mar 10
☞ 4319-64U	i7-720QM	1.60	2.80	2GBx1 1066	15.6" HD+		320G 7200	None	Intel 6300	WWAN upg			vPro	Pro 64	Sep 10

- ***These small and medium business (SMB) models are part of the US TopSeller™ Program***
- ***Power-packed engineering with Open GL graphics and ISV certifications***
- ***These systems are Microsoft® Office 2010 Product Key Ready (O10PKR)***

Positioning	*Mobile workstation; two spindles*
Processor	**Intel® Core™ i7 processor i7-720QM** or **i7-820QM** with **quad-core**, DMI (Direct Media Interface), integrated DDR3 memory controller (up to 1333MHz), Intel Turbo Boost, Hyper-Threading technology; *i7-720QM:* 6MB cache; *i7-820QM:* 8MB cache
Memory	**2GB** or **4GB** std / 16GB max[7] / PC3-8500 1066MHz **DDR3**, non-parity, dual-channel capable, four 204-pin SO-DIMM sockets
SATA DVD±RW	DVD burner, SATA 1.5Gb/s, 12.7mm Ultrabay Enhanced, removable
Ultrabay Enhancd	One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access
SATA disk	**320GB**[8] (7200 rpm) / SATA 3.0Gb/s, 2.5" wide, 9.5mm high, removable, upgradable, supports second disk, Shock Mounted Hard Drive, Active Protection System™
Widescreen display	*Some:* **15.6"** (396mm) **HD+ (1600x900) color**, anti-glare, **LED backlight**, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut *Some:* **15.6"** (396mm) **FHD (1920x1080) color**, anti-glare, **LED backlight**, 270 nits, 16:9 aspect ratio, 500:1 contrast ratio, 95% Gamut *Some:* **15.6"** (396mm) **FHD (1920x1080) color**, anti-glare, **LED backlight**, 242 nits, 16:9 aspect ratio, 500:1 contrast ratio, 95% Gamut, **MultiTouch** (touchscreen supports two-finger touch)
Color calibration	*Some:* huey™PRO Colorimeter by X-Rite® color calibration sensor in palm rest
Camera	Camera on top of screen, 2.0-megapixel, fixed focus
Discrete graphics	**NVIDIA® Quadro® FX880M**, PCI Express® x16, **1GB** memory, external analog monitor support via VGA DB-15 connector and digital monitor support via DisplayPort (supports single-link DVI-D via cable 45J7915); supports dual independent display; *Maximum external resolution:* 2560x1600 (DisplayPort)@60Hz; 2048x1536 (VGA)@85Hz; 1920x1200@60Hz (single-link DVI-D via cable 45J7915)
Keyboard	89-key, ThinkVantage button, spill-resistant, multimedia Fn keys
TrackPoint®	TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar[13], magnifying glass
Touchpad	UltraNav™, wide touchpad below keybrd, Tap Zones, scrolling regions label, multi-touch
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions
Dimensions (WxDxH)[3]	*HD+:* 14.68" x 9.65" x 1.26-1.41"; 372.8mm x 245.1mm x 32-35.8mm *FHD:* 14.68" x 9.65" x 1.29-1.44"; 372.8mm x 245.1mm x 32.8-36.6mm *FHD MultiTouch:* 14.68" x 9.65" x 1.35-1.57"; 372.8mm x 245.1mm x 34.3-39.8mm
Weight[2]	*6-cell:* starting at 5.66 lb (2.57kg); *9-cell:* starting at 6.01 lb (2.72kg)
Case material	*Display cover:* Glass-fiber reinforced plastic; *Base:* Carbon-fiber reinforced plastic
Battery - type	Lithium Ion **9-cell**, supports optional Slice battery (57Y4545) as 2nd battery at bottom
Battery - life[10]	*6-cell:* up to 3.0 hr; *9-cell:* up to 5.1 hr; *9-cell plus slice battery:* up to 10.5 hr
Chipset	**Mobile Intel QM57 Express Chipset**
ExpressCard/34	One slot (ExpressCard/34)
Smart Card Read	None
Multicard Reader	5-in-1 reader (MMC, Memory Stick, Mem Stick Pro, SD, SDHC)
Ports	Two USB 3.0, one Powered USB 2.0, one USB 2.0/eSATA combo port, external monitor (VGA DB-15, DisplayPort), modem (RJ-11), ethernet (RJ-45), IEEE 1394 FireWire 400 (4-pin connector; 1394a-2000 standard)
PCIe Mini Card	Two PCI Express Mini Card slots
Intel 6300[28]	11a/b/g/n wireless[4], PCIe Half Mini Card, Intel Centrino® Ultimate-N 6300, 3x3
WWAN upg	*Some:* Wireless WAN upgradable
Gobi™ 2000	*Some:* Wireless WAN, Qualcomm chipset, PCIe Mini Card, EV-DO Rev. A, GPRS/WCDMA/HSPA, GPS, contract required with service provider
Carrier	*Some:* AT&T®, contract required with service provider
Modem	56K V.92[6] modem
Bluetooth™	Bluetooth 2.1 wireless, LED indicator
Ethernet	Intel 82577LM Gigabit Network Connection (Hanksville), PHY, PCIe x1
Intel AMT	Intel Active Management Technology (iAMT)
Audio support	High Definition (HD) Audio, Conexant 20585 codec / stereo speakers, 1 watt x 2 / speaker volume up, down and mute buttons / dual array microphone, mic mute button, combo audio/mic jack
Security	Power-on password, hard disk password, supervisor password, security keyhole
Security chip	Trusted Platform Module, TCG 1.2-compliant
Fingerprint reader	UPEK Fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip
Limited warranty[12]	**3-years**/1-yr battery - depot repair service / service upgrades[22] available

Preloaded operating system[20]
- *Some:* Genuine Windows® 7 Professional 32
- *Some:* Genuine Windows 7 Professional 64

Preloaded applications[14] (only some listed)
- Rescue and Recovery™
- Access Connections™
- Password Manager
- Fingerprint Software (fingerprint models)
- ThinkVantage System Update
- ThinkVantage Power Manager
- ThinkVantage Toolbox
- Norton™ Internet Security 2011 (30 days of virus definitions)
- Adobe® Reader®
- Adobe Flash® Player
- Windows Live™ Toolbar
- Skype™ for Windows
- Microsoft Office 2010 preloaded; purchase product key to activate
- Microsoft Research AutoCollage Touch
- Roxio® Creator® Business Edition (DVD±RW)
- Roxio MyDVD® (DVD±RW)
- Corel® WinDVD® (DVD±RW)
- huey™PRO Monitor Color Correction by Pantone®/X-Rite® (color calibration models)

Supports ThinkVantage® technologies

135-watt AC adapter
ThinkPad Roll Cage (one-piece magnesium frame)
EPEAT™ Gold rating
ENERGY STAR® 5.0-compliant
RoHS-compliant
International Warranty Service[17]
24 hour x 7 day[18] toll-free support during the warranty period[12] via 800-426-7378

ThinkPlus™, [22] 3-year LOR[24] 9x5 NBD 41C9176
ThinkPlus 4-year LOR 9x5 NBD 41C9177
ThinkPlus 5-year LOR 9x5 NBD 41C9179
ThinkPlus 4-year P&L P/U Depot 41C9178
ThinkPlus 5-year P&L P/U Depot 41C9180
Post-warranty annual maintenance agreements at **lenovo.com**/thinkplus/warranty

See footnotes for important warranty information

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☞ US model announced September 28, 2010; previous models on January 7, February 2, or March 2, 2010

(KN1W-1) October 2010

✂ US model withdrawn effective February 2010